

800-1050V MDmesh™ K5



ST's first super-junction VHV MOSFET Series



The MDmesh™ K5 series uses ST's best-in-class super-junction VHV MOSFET technology to boost efficiency in high-voltage power supplies

ST's latest-generation MDmesh™ K5 series ensures the best efficiency, robustness and safety margin for power supplies, LED lighting drivers and DC-DC converters for hybrid electric vehicles (HEVs) and electric vehicles (EVs). These MOSFETs enable designers to meet increasingly strict limits on maximum power and minimum energy efficiency specified by eco-design standards such as Energy Star and the EU's energy-related products (ErP) directive.

KEY FEATURES

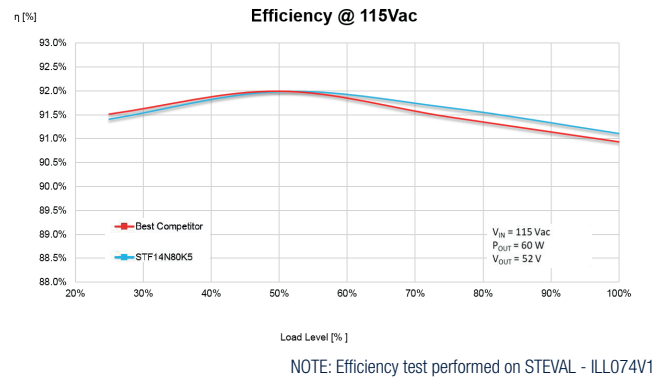
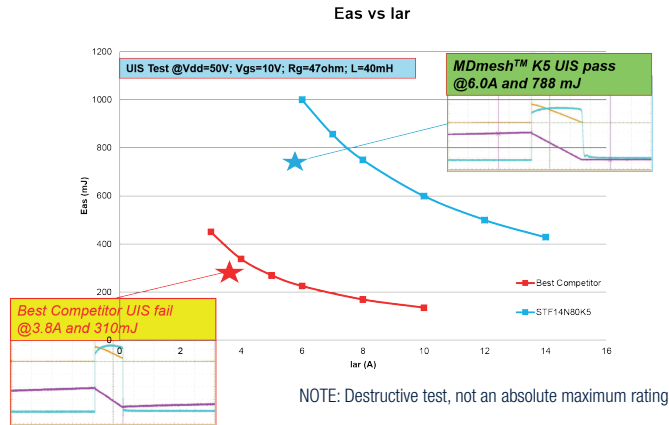
- Extremely good $R_{DS(on)}$ at very high BV_{dss}
- High switching speed
- 800-1050V BV_{dss} rated
- Unequaled robustness at very high BV_{dss}
- 100% avalanche-tested
- Zener-protected

KEY BENEFITS

- High efficiency with lower design complexity
- Industry's best figure of merit (FoM)
- Especially targeted for flyback-based topologies applications

MDmesh™ K5 VS BEST COMPETITOR

Benchmark between 800 V, 0.45- 0.445 Ohm, and 11-12 A class devices: same efficiency, superior UIS robustness



SELECTION OF POWER TRANSISTORS BELONGING TO MDmesh™ K5 SERIES:

VDSS	R _{DS(on)} (@VGS=10V) max (Ω)	Drain Current (Dc)(I _D) max (A)	Total Gate Charge(Qg) typ (nC)	Part Number	Package
800	1.75	4	5.5	STx5N80K5	DPAK/TO-220/TO-220FP
800	1.15	5	12	STx7LN80K5	DPAK/TO-220FP
800	0.9	7	12	STx9N80K5	TO-220FP
800	0.63	8	15	STx10LN80K5	TO-220/TO-220FP
800	0.445	12	22	STX14N80K5	TO-220/TO-220FP
800	0.375	14	30	STX15N80K5	D ² PAK/TO-220FP/TO-220/TO-247
900	2.1	3	11.6	STX4N90K5	DPAK/TO-220/TO-220FP
900	1.1	6	15.6	STx6N90K5	DPAK/IPAK/TO-220/IP ² PAK/TO-220FP/TO-247
900	0.81	7	17.7	STx7N90K5	DPAK/TO-220/TO-220FP/TO-247
900	0.68	8	19.8	STx8N90K5	D ² PAK/TO-220/TO-220FP/TO-247
900	0.299	18.5	43	STx21N90K5	TO-220FP/TO-220/TO-247
950	5	2	10	STx2N95K5	DPAK/IPAK/TO-220/TO-220FP
950	2.5	3.5	12.5	STx5N95K5	DPAK/IPAK/TO-220/TO-220FP
950	1.25	9	13	STx6N95K5	DPAK/TO-220/IPAK/TO-247
950	0.8	8	20	STx10N95K5	TO-220FP/D ² PAK/TO-247/TO-220
950	0.5	12	27	STX15N95K5	TO-220FP/TO-220/TO-247
1050	3.5	3	12.5	STF5N105K5	TO-220FP
1050	8.0	1.5	10	STX2N105K5	DPAK/IPAK TO-220
1050	3.5	3	12	STX5N105K5	TO-220/TO-220FP
1050	2.0	4	17	STX7N105K5	IPAK/TO-220/TO-220FP
1050	1.3	6	21	STX10N105K5	TO-220/TO-220FP

Note: To explore the complete MDmesh™ K5 product portfolio, visit www.st.com or use our ST-MOSFET-Finder mobile app for Android and iOS



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